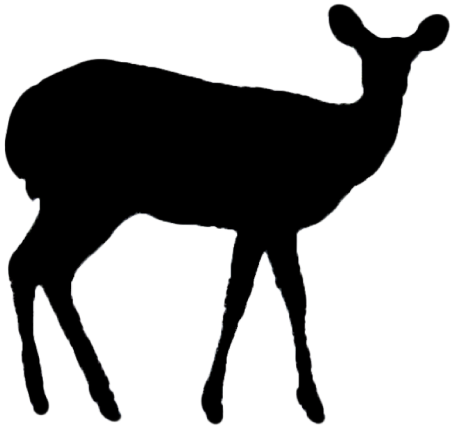
Resident Perceptions of Good Governance for Community-Based Deer Management in Trumansburg and Cayuga Heights, New York



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EXECUTIVE SUMMARY

As negative interactions with white-tailed deer (*Odocoileus virginianus*) (e.g., damage to landscape plantings, deer-vehicle collisions) have increased in communities across the United States, many municipalities have taken on the task of implementing deer management programs (Decker, Raik, & Siemer, 2004). While specific aspects of these programs vary, often some form of citizen engagement, attuned to expectations for good governance, accompanies them. Good governance, defined by the United Nations as "a process of decision making and the process by which decisions are implemented" (Sheng, 2009, p. 1) that ensures decision making is responsive to current and future needs of society as well as diverse citizen voices, has become the ideal to which many governing bodies and decision makers strive (Graham, Amos, & Pumptre, 2003). While definitions of the particular principles that comprise good governance practice vary, the principles used for our analysis include: inclusivity, fairness, transparency, legitimacy, performance, direction, accountability, and capability.

The purpose of this study is to better understand the priority community members place on various principles of good governance and the extent to which such principles are perceived as having been achieved from the perspective of residents within different community-based white-tailed deer management settings. In addition, we seek to understand the relationship between resident perceptions of good governance and their satisfaction with their community's deer management program. We explore these factors by comparing good governance perceptions across two New York State communities—Trumansburg and Cayuga Heights—whose community-based deer management processes progressed differently with respect to time, resources, citizen engagement, and implementation.

In September and October of 2016, a mail-back survey of households in Trumansburg and Cayuga Heights was conducted. Overall, 1,265 questionnaires were distributed in total to both communities, with 675 completed and returned (response rate=53.5%). A total of 783 questionnaires were administered to Cayuga Heights, with 411 completed and returned (response rate=52.5%). A total of 482 questionnaires were administered to Trumansburg, with 264 completed and returned (response rate=54.8%). In November 2016, a nonrespondent follow-up telephone survey was conducted using a subset of six questions from the original questionnaire. A total of 91 non-respondents were contacted, 50 from Cayuga Heights and 41 from Trumansburg. Significant differences ($p<.05$) were found between nonrespondents and respondents for a number of items, but effect sizes for these differences were all between a minimal and typical effect (r, Cramer's V, or ϕ between .12 and .19), so we did not weight the survey data.

The deer-related experience reported most frequently by both Cayuga Heights and Trumansburg residents was deer damage to gardens and plants around their homes (90.7% and 93.6% of respondents, respectively). For deer-related auto accidents, residents from Trumansburg (33.3%) reported more experiences than Cayuga Heights (24.6%), $x^2=6.036$, $p=.014$. For hunting deer in or near the community, residents from Trumansburg (12.5%) reported more experiences than Cayuga Heights (3.4%), $x^2=19.738$ $p<.001$..

Respondents from Trumansburg and Cayuga Heights reported similar attitudes toward deer, with most indicating that they enjoy deer, but worry about problems they may cause, followed by

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those that do not enjoy deer and regard them as a nuisance. They also reported similar perceptions of the cost-benefit of living with deer, with most respondents indicating that the costs of living with deer exceed the benefits (Trumansburg 68.0%; Cayuga Heights 66.1%).

Overall, residents in both communities were at least somewhat familiar with their respective deer management programs (69% in Trumansburg, 80% in Cayuga Heights). Overall, most residents in both communities were satisfied with the programs (61% in Trumansburg, 65% in Cayuga Heights).

With respect to good governance items, as a computed mean index, both Trumansburg and Cayuga Heights respondents agreed most strongly that the principle of "direction" was achieved in their community. Statistical differences existed in the evaluations of two good governance principles. Residents from Cayuga Heights tended to agree more strongly that their deer management program reflected principles of accountability and transparency. Cayuga Heights and Trumansburg respondents were not different with respect to inclusivity, fairness, performance, legitimacy, direction, and capability. We found small statistical differences in evaluations for accountability and transparency between the two communities, but those differences have little practical significance.

For Trumansburg, there was a statistically significant positive correlation between good governance principle evaluations and overall satisfaction, suggesting that respondents who expressed more agreement that good governance principles were achieved for Trumansburg's deer management program reported higher levels of satisfaction. The legitimacy principle was the strongest predictor of overall satisfaction ($\beta = .432$, $p = .009$) while performance ($\beta =. 245$, $p = .036$) also contributed to satisfaction. No other principles were significant. The regression model explained 30% of the variance in satisfaction.

For Cayuga Heights, there was also a statistically significant positive correlation between good governance principle evaluations and overall satisfaction, suggesting that respondents who expressed more agreement that good governance principles were achieved for Cayuga Height's deer management program reported higher levels of satisfaction. The performance principle was the strongest predictor of overall satisfaction ($\beta = .347$, $p < .001$) while legitimacy ($\beta =.308$, $p = .003$) and familiarity with the program ($\beta =-2.01$, $p = .046$) also contribute to satisfaction. No other indices were significant. The regression model explained 54% of the variance in satisfaction.

Generally, residents were satisfied with deer management programs despite differences in decision-making processes in Cayuga Heights and Trumansburg. Overall, our findings suggest that attention to good governance principles matters, explaining a fair amount of satisfaction with respect to deer program evaluation. However, it seems that how communities operationalize those principles can vary, and may need to vary to achieve satisfaction by community members. From a management perspective, this suggests some caution with respect to applying specific practices from one community to another community and expecting similar outcomes. While communities may progress through a similar cycle of deer management decision making, the specifics of how they deal with steps in the cycle and the time needed to do so may differ fairly considerably.

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Our questionnaire was reviewed and granted approval by the Cornell University Office of Research Integrity and Assurance (Institutional Review Board for Human Participants Protocol ID# 1006001472).

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TABLE OF CONTENTS

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LIST OF TABLES

`

INTRODUCTION

Good governance is defined by the United Nations as governance that ensures decision making is responsive to current and future needs of society as well as diverse citizen voices (Sheng, 2009). Good governance has become the ideal to which many governing bodies and decision makers strive (Graham, Amos, & Pumptre, 2003). Definitions of the particular principles that comprise good governance practice vary. The principles used for our analysis include: inclusivity, fairness, transparency, legitimacy, performance, direction, accountability, and capability (Table 1).

Table 1. Good governance principles definition and source

Good Governance Principles	Definition	Source
1. Inclusivity	All stakeholders have opportunities to participate in and affect decision-making	Lockwood et al. (2010)
2. Fairness	Governing body respects diverse stakeholder views, without bias; considers costs/benefit distribution	Lockwood et al. (2010)
3. Performance	Effectiveness and efficiency; processes meet their objectives while making the best use of resources	Graham, Amos, and Pumptre (2003); Sheng (2009)
4. Transparency	Rationale for decision-making is clearly communicated; information is freely available and accessible	Lockwood et al. (2010); Graham, Amos, and Pumptre (2003); Sheng (2009)
5. Legitimacy	Governing body given authority to make decisions by rule of law or by stakeholders; authority used with integrity	Lockwood et al. (2010)
6. Accountability	Governing body takes responsibility and is answerable for its decisions; demonstrates fulfillment of responsibilities	Lockwood et al. (2010); Graham, Amos, and Pumptre (2003); Sheng (2009)
7. Direction	Strategic vision; looking constructively towards the future	Graham, Amos, & Pumptre, (2003); Decker et al. (2016)
8. Capability	Resources, skills, leadership, knowledge of governing body	Lockwood et al. (2010)

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As negative interactions with white-tailed deer (e.g., damage to landscape plantings, deer-vehicle collisions) have increased in communities across the United States, many municipalities have taken on the task of implementing deer management programs (Decker, Raik, & Siemer, 2004). While specific aspects of these programs vary, often some form of citizen engagement, attuned to expectations for good governance, accompanies them. Effective citizen engagement is one way that municipal leaders, particularly in suburban areas experiencing deer overabundance issues, attempt to make deer management decisions acceptable to their communities, and is an important approach for collaboration and capacity building (Raik, Decker, & Seimer, 2006).

Community-based approaches create the opportunity to address negative deer-related impacts at a very local level. Impacts are the effects from human-deer interactions or management actions that are important to stakeholders (Leong et al., 2012; Riley et al., 2002; Riley, Siemer, Decker, Carpenter, Organ, & Berchielli, 2003). Community-level processes that engage the public in decision making aid in uncovering the values and impacts that community decision makers (be it an appointed deer committee or the village board) need to understand to be effective with respect to wildlife management. As Decker et al. (2009) write, wildlife management "…is not a value-free technical process dictated by biological or social science," it is about managing impacts the public cares about (p. 324). Those impacts may be ecological, cultural, health and safety, psychological, social or economic; determining management strategies that can address a diversity of impacts is a difficult process (Decker, Lauber, & Siemer, 2002).

While the general kinds of impacts stakeholders experience with respect to deer may tend to fall in particular categories, the distribution and intensity of impacts of deer may vary across communities. However, community decision-making processes with respect to public issues, including deer, generally progress through a relatively similar cycle from defining a problem, making a decision, implementing that decision, and evaluating and adapting accordingly (Hahn, 1990; Decker, Raik, & Siemer, 2004). The cycle begins with individual citizens identifying negative impacts of deer locally, who after a time coalesce into a "critical mass" of agreement about the nature of impacts and the desire for some community action (Decker et al., 2004, p. 6). The recognition that communities undergo similar processes has encouraged community leaders to learn from the experiences of other communities, and avoid "reinventing the wheel" by anticipating barriers, constraints, controversies and concerns likely to arise in the course of community-based deer management (Decker et al., 2004; deeradvisor.org). However, while the general cycle of issue development may be the same and similar barriers and constraints may arise, community contexts vary with respect to the legal limitations a given community will face. State and local laws and regulations regarding actions that can and cannot be implemented to effect deer management, management technique preferences, resources (budgetary, personnel, etc.) available within a community, political will to implement decisions, and access to experts, can vary greatly (Decker et al., 2004).

Carrying out effective community-level decision-making processes while striving to achieve the principles of good governance can be aided by understanding the relationship between a community's performance of governance and citizen prioritization of

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principles of good governance. If important differences in decision-making processes exist between some communities, we might expect to see differences in how communities prioritize and evaluate good governance principles as reflected in governance practices. The purpose of this study is to better understand the priority community members place on various principles of good governance and the extent to which such principles are perceived as having been achieved from the perspective of residents within different community-based white-tailed deer (*Odocoileus virginianus*) management settings. In addition, we seek insight about the relationship between resident perceptions of good governance and their satisfaction with their community's deer management program. We explore these factors by comparing good governance perceptions of residents of two New York State communities whose community-based deer management processes progressed differently with respect to time, resources, citizen engagement, and implementation.

METHODS

Study Sites: Cayuga Heights, New York and Trumansburg, New York

While both Cayuga Heights and Trumansburg are small villages (each less than 1,000 households) located near Cornell University (Ithaca, NY), and both consulted with experienced Cornell researchers throughout their community-based deer management processes, the respective community processes progressed very differently. Trumansburg is a small residential community of 1,797 people located about 12 miles north of Ithaca, New York (US Census, 2010). Municipal leaders had been receiving complaints of deer impacts, such as plant damage, fence repair, and deer-vehicle accidents, expressed at a biennial public meeting. These complaints gave rise to formation of a nuisance wildlife committee in 2012, which established a deer oversight committee to make recommendations for deer management to the village board. The board implemented a nuisance control program using volunteer bowhunters at baited sites on landowners' properties, with landowner permission, beginning in 2014. Maps of the management sites were made publicly available on the village's webpage. The venison from culled deer was donated to a local food bank, as well as local churches and participating landowners. This program is coordinated with the assistance of Cornell's Integrated Deer Research and Management Program. Generally, those involved in the program report little public controversy (minor public relations problems have arisen related to occasional need to retrieve deer from properties of non-participating landowners).

Cayuga Heights is also a small residential community, with a population of 3,729 (US Census, 2010). It is located adjacent to the City of Ithaca, New York; it is only 13 miles from Trumansburg. Prompted by growing concerns with landscape damage, citizens petitioned the state wildlife management agency in 1998 to take action against deer, followed by appeals to village leaders. The mayor established a deer committee to provide recommendations to the village board of trustees. The village carried out multiple homeowner surveys, studies of deer abundance, public meetings (as well as over 40 deer committee meetings), and discussions with experts throughout their decision-making process. In the early 2000s, the village decided to take a nonlethal approach to deer

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population management. Nonlethal methods did not reduce the impacts experienced in the village, and the village went through another decision-making process, this time with the committee recommending a combination of lethal and nonlethal control. The village completed a lengthy environmental impact statement. In 2013, they began sterilizing does in the village, followed by a cull beginning in 2015. The cull was carried out by a private company specializing in such work using professional shooters with crossbows, who were situated at specific locations where deer were attracted by food bait.

While the process in Trumansburg progressed relatively rapidly with little controversy, taking approximately 2 years from defining the deer management problem to implementing action, Cayuga Heights' process took over 15 years to get to action from when the community began voicing concerns about deer. Cayuga Heights' process included substantial gathering of data and public input; Trumansburg initially relied on a resident survey and two public meetings. The Cayuga Heights effort involved heated debates over management methods, as well as a lawsuit brought forth by organized citizens opposed to lethal control; Cayuga Heights spent hundreds of thousands of dollars on their program, including legal fees and costs associated with hiring a private contractor to manage deer. In contrast, Trumansburg's only reported costs were four thousand dollars spent on an aerial deer population survey. In addition, while Cayuga Heights hired an outside contractor to cull deer, Trumansburg relied on volunteer bowhunters organized by a local hunter. In short, both the processes followed and the outcomes were distinct in these two communities. In evaluating the effectiveness of the processes and outcomes in these two communities from a governance perspective, understanding resident evaluations of these efforts is a critical piece of information. Given the controversy surrounding the Cayuga Heights case, in contrast with the Trumansburg case, we expected to find differences in how residents evaluate local government performance with respect to good governance principles.

Data Collection

In September and October of 2016, a mail-back survey of 1,265 households in Trumansburg and Cayuga Heights was conducted (see Appendix A for questionnaire). Given the small population size for both communities, (3,729 for Cayuga Heights; 1,797 for Trumansburg [US Census, 2010]), we chose to conduct a census of households (Salant & Dillman, 1994). Household addresses were acquired from the 2015 property tax rolls for Tompkins County. We used a modified Dillman method, contacting each household up to four times (i.e., (1) an initial letter and questionnaire, (2) a reminder letter, (3) a third reminder letter and replacement questionnaire to nonrespondents, and (4) a final reminder about one week after the third mailing). Members of households with the most recent birthday who were over 18 years of age were asked to complete the questionnaire. Overall, 1,265 questionnaires were distributed in total to both communities, with 675 completed and returned (response rate=53.5%). A total of 783 questionnaires were administered to Cayuga Heights, with 411 completed and returned (response rate=52.5%). A total of 482 questionnaires were administered to Trumansburg, with 264 completed and returned (response rate=54.8%). Respondents from Trumansburg were 55.6% female (n=144) and 44.4% male (n=115); respondents from Cayuga Heights were 54.9% female (n=218) and 45.1% male (n=179). The average length of time

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respondents had lived in the community was 25.8 years in Trumansburg (n=259) and 23.5 years in Cayuga Heights (n=400).

In November 2016, a follow-up telephone survey of nonrespondents was conducted using a subset of six questions from the original questionnaire (see Appendix B). A total of 91 nonrespondents were contacted, 50 from Cayuga Heights and 41 from Trumansburg. Significant differences ($p<.05$) were found between nonrespondents and respondents for a number of items. In both Cayuga Heights and Trumansburg, nonrespondents more often reported that the benefits of deer exceed the costs, reported experiencing less ornamental plant damage around their homes, and reported experiencing more damage to their woodlots. In Cayuga Heights, nonrespondents reported less satisfaction and less familiarity with the deer management program. In Trumansburg, nonrespondents more often reported that they enjoy deer and do not worry about the problems they cause. Effect sizes for these differences were all between a minimal and typical effect (r, Cramer's V, or ϕ between .12 and .19), so we chose not to weight the survey data.

Data Analysis

SPSS (Version 24.0) was used to perform all analyses. To assess the internal consistency of the statements designed to measure each of the principles of good governance, a Cronbach alpha reliability analysis was performed. Cronbach alpha coefficients indicate whether items intended to measure the same concept are doing so. A Cronbach alpha coefficient may range from 0 (no reliability) to 1 (perfect reliability), with a value greater than or equal to .65 as acceptable reliability (Vaske, 2008). Each item should have corrected item total correlations greater than or equal to .40 (correlations between one item and the sum of the values of the other items) (Vaske, 2008). Those items with corrected-item-total correlations greater than .40 and that result an alpha greater than .65 were combined into an index to measure each principle of good governance. The complete reliability analysis is available in Appendix C.

RESULTS

The most frequently reported deer-related experience of concern to both Cayuga Heights and Trumansburg residents was deer damage to gardens and plants around their homes (91% and 94% of respondents, respectively) (Table 2). A Likelihood Ratio Chi-square analysis was performed to discern the existence of a difference between villages in the amount of impacts experienced. Statistical differences exist for two impacts. For deer-related auto accidents, residents from Trumansburg (33%) reported more experiences than Cayuga Heights (25%), $x^2=6.036$, $p=.014$. However, the effect size for this difference was small, $\phi=-.095$, suggesting little practical significance—i.e., the differences are too small to be considered meaningful. For hunting deer in or near the community, residents from Trumansburg (12%) reported more experiences than Cayuga Heights (3%), $x^2=19.738$ $p<.001$. The effect size for this difference was $\phi=-.173$, indicating a small to moderate effect. We found small statistical differences in evaluations for accountability and transparency between the two communities, but those differences have little practical significance.

Table 2. Deer-related experiences in last 5 years

Experiences	Community[1]	
	Trumansburg	Cayuga Heights
Deer damage to gardens and plants around my home[2]	94	91
Deer damage to crops[3]	14	11
Viewing or photographing deer in or near my community[4]	64	63
Deer-related auto accident[5]	33	25
Lyme or other tick-borne disease associated with deer[6]	19	19
Hunting deer in or near my community[7]	12	3
Deer damage to forests on my land[8]	10	14

1. Percent of respondents reporting impact
2. Chi-square statistic reported (Likelihood Ratio), x^2=1.838 p=.175, ϕ=-.052
3. Chi-square statistic reported (Likelihood Ratio), x^2=1.435 p=.231, ϕ=-.047
4. Chi-square statistic reported (Likelihood Ratio), x^2=.017 p=.897, ϕ=-.005
5. Chi-square statistic reported (Likelihood Ratio), x^2=6.035 p=.014, ϕ=-.095
6. Chi-square statistic reported (Likelihood Ratio), x^2=.013 p=.908, ϕ=.004
7. Chi-square statistic reported (Likelihood Ratio), x^2=19.738 p<.001, ϕ=-.173
8. Chi-square statistic reported (Likelihood Ratio), x^2=2.618 p=.106, ϕ=.062

The same patterns for attitude toward about deer were reported for respondents from both Trumansburg and Cayuga Heights, with most respondents indicating that they enjoy deer, but worry about problems they may cause, followed by those that do not enjoy deer and regard them as a nuisance (Table 3). A Likelihood Ratio Chi-square analysis was performed to discern a difference between villages in reported feelings about deer. The difference between the two communities was statistically significant, with x^2=9.23 p=.01. However, the effect size for this difference was minimal, with Cramer's V =.12, suggesting little practical significance. Therefore, despite a statistical difference for these communities, the difference has little practical significance.

Table 3. Attitude toward deer in Trumansburg and Cayuga Heights

Feelings about deer	Community[1]	
	Trumansburg	Cayuga Heights
Enjoy deer, but worry about problems they may cause	57	45
Do not enjoy deer, regard as a nuisance	32	42
Enjoy deer, don't worry about the problems they may cause	11	13

Note. Chi-square statistic reported (Likelihood Ratio), x^2=9.23 p=.01,Cramer's V =.12
1. Cell entries for feelings about deer are percentages of respondents.

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The same patterns for cost-benefit perceptions for living with deer were reported for respondents from both Trumansburg and Cayuga Heights, with most respondents indicating that the costs of living with deer exceed the benefits (Trumansburg 68%; Cayuga Heights 66%) (Table 4). A Likelihood Ratio Chi-square indicated that the difference between the two communities was not significant, x^2=5.52 p=.06.

Table 4. Reported cost/benefit analysis of having deer in community

	Community[1]	
Cost/benefit analysis of deer in community	Trumansburg	Cayuga Heights
Benefits of deer in my community exceed the costs	7	12
Costs of deer in my community exceed the benefits	68	66
Costs and benefits of deer in my community are about an even tradeoff	25	22

Note. Chi-square statistic reported (Likelihood Ratio), x^2=5.52 *p*=.06, Cramer's *V* =.09

1. Cell entries for feelings about deer are percentages of respondents reporting benefits exceed costs, costs exceed benefits, or cost/benefit is an even tradeoff.

Residents from Cayuga Heights tended to be more familiar with their deer management program than residents of Trumansburg, with means of 3.53 and 3.09, respectively (Table 5). This relationship was statistically significant, with *t*=-4.54, p<.001. A typical effect size was found, r_{pb}=.18. Overall, most residents in both communities were at least somewhat familiar with the programs (69% in Trumansburg, 80% in Cayuga Heights).

Table 5. Familiarity with deer program by community

	Familiarity Level[1]					
Community	Not	Slightly	Somewhat	Moderately	Extremely	Mean[2]
Trumansburg	15	16	26	30	13	3.09
Cayuga Heights	4	15	24	37	19	3.53

1. Cell entries are percent of respondents.

2. Cell entries for mean are average overall familiarity with community's deer program. Item coded on 5-point scale: 1=not at all familiar, 2=slightly familiar, 3=somewhat familiar, 4=moderately familiar, 5=extremely familiar.

Respondents from Trumansburg and Cayuga Heights reported nearly identical levels of satisfaction (means of 4.99 and 4.95, respectively; t=.223, p=.824) (Table 6). Overall, most residents in both communities were satisfied with the programs (61% in Trumansburg, 65% in Cayuga Heights).

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Table 6. Overall satisfaction with deer program by community

Community	Satisfaction Level[1]					Mean[2]
	Very Dissatisfied	Somewhat Dissatisfied	Neither	Somewhat Satisfied	Very Satisfied	
Trumansburg	6	15	19	34	27	4.99
Cayuga Heights	13	12	9	34	31	4.95

1. Cell entries are percent of respondents. Somewhat satisfied and dissatisfied includes those who selected either slightly or moderately categories.
2. Cell entries for mean are average overall satisfaction with community's deer program. Item coded on 7-point scale, 7=very satisfied, 6=moderately satisfied, 5=slightly satisfied, 4=neither satisfied or dissatisfied, 3=slightly dissatisfied, 2=moderately dissatisfied, 1=very dissatisfied

The three items reflecting good governance principles that had the highest agreement by respondents are noted in Table 7. For Cayuga Heights, highest agreement was around an inclusivity item, "residents were given the opportunity to express their preferences about deer management," with a mean of 4.20. For Trumansburg, highest agreement was around a direction item, "the long-term impacts of deer management on my community will be positive," with a mean of 4.03.

Table 7. Highest average good governance item agreement by community

Community[3]	Agreement Level[1]					Mean[2]
	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	
Cayuga Heights						
Residents were given the opportunity to express their preferences about deer management (inclusivity)	3	4	8	41	44	4.20
How our community would benefit from deer management was considered during the decision-making process (performance)	2	4	13	52	29	4.02
The long-term impacts of deer management on my community will be positive (direction)	6	5	11	38	41	4.01
Trumansburg						
The long-term impacts of deer management on my community will be positive (direction)	1	4	15	49	31	4.03
How our community would benefit from deer management was considered during the decision-making process (performance)	1	2	16	59	23	4.00
The deer management program in my community will benefit future residents (direction)	1	6	13	52	27	3.99

1. Cell entries are percent of respondents.
2. Mean reporting level of agreement, measured on a five-point scale: 1=strongly disagree, 2=disagree, 3=neither, 4=agree, 5=strongly agree.
3. Parentheses indicate good governance principle with which the item is associated.

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As a computed mean index, overall both Trumansburg and Cayuga Heights agree most strongly that the principle of direction was achieved in their community (Table 8). Residents from Cayuga Heights tended to more strongly agree that their deer management program reflected principles of accountability and transparency.

Table 8. Good governance principles evaluation by community

Principle Index	Community[1]		*t*-value	*p*-value	Effect Size r_{pb}
	Trumansburg	Cayuga Heights			
Inclusivity	3.58	3.72	-1.80	.072	.08
Fairness	3.76	3.65	1.64	.102	.06
Performance	3.81	3.69	1.73	.084	.07
Transparency	3.45	3.67	-2.34	.020	.10
Legitimacy	3.72	3.68	0.50	.579	.02
Accountability	3.20	3.48	-3.32	.001	.14
Direction	3.99	3.97	0.30	.761	.01
Capability	3.70	3.62	1.10	.271	.04

1. Cell entries for community are average rating of each principle's computed index. Lower the number, the more positively rated the principle. Based off of level of agreement with statements evaluating whether or not the community's deer management process has expressed these principles. 1=strongly disagree, 2=disagree, 3=neither, 4=agree, 5=strongly agree.

The three items reflecting good governance principles that had the highest importance ratings by respondents are noted in Table 9. For both Cayuga Heights and Trumansburg, highest importance was for a legitimacy item, "decision makers are trustworthy," with means of 4.65 and 4.72, respectively.

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Table 9. Highest average good governance item importance by community

Community[3]	Importance Level[1] Not	Slightly	Somewhat	Moderately	Extremely	Mean[2]
Cayuga Heights						
Decision makers are trustworthy (legitimacy)	1	0	5	21	73	4.65
The reasoning behind decisions is clearly communicated to residents (transparency)	1	1	5	30	64	4.56
The deer program is meeting its objectives (performance)	2	1	4	26	67	4.55
Trumansburg						
Decision makers are trustworthy (legitimacy)	0	0	2	24	74	4.72
The process for making decisions is clearly communicated to residents (transparency)	0	0	7	26	67	4.60
The deer program considers future needs of the community (direction)	1	0	9	40	50	4.54

1. Cell entries are percent of respondents.
2. Mean reporting level of importance, measured on a five-point scale: 1=not important, 2=slightly important, 3=somewhat important, 4=moderately important, 5=extremely important
3. Parentheses indicate good governance principle with which the item is associated.

For Trumansburg, there was a statistically significant positive correlation between evaluations of good governance principle performance and overall satisfaction, signifying that respondents who expressed more agreement that good governance principles were achieved for Trumansburg's deer management program reported higher levels of satisfaction (Table 10). These relationships range from typical to substantial. A statistically significant positive correlation also exists between familiarity with the program and overall satisfaction ($r = .33$, $p < .001$). Table 10 also shows that the regression model indicated that the legitimacy index is the strongest predictor of overall satisfaction ($\beta = .432$, $p = .009$) while performance ($\beta =. 245$, $p = .036$) also contributes to satisfaction. All other indices and the familiarity item were not significant. The regression model explained 30% of the variance in satisfaction.

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Table 10. Predicting overall satisfaction with deer program for Trumansburg

Independent Variables	Dependent variable: Resident satisfaction[1,2]					
	Zero-order correlation (*r*)	*p*-value	*B*	*SEB*	*β*	*p*-value
Inclusivity[3]	.42	<.001	.303	.316	.137	.341
Performance[3]	.51	<.001	.612	.289	.245	.036
Accountability[3]	.41	<.001	.173	.246	.080	.484
Direction[3]	.43	<.001	.172	.238	.078	.470
Transparency[3]	.46	<.001	-.158	.357	-.071	.658
Legitimacy[3]	.55	<.001	1.104	.418	.432	.009
Fairness[3]	.41	<.001	-.452	.415	-.160	.279
Capability[3]	.44	<.001	-.264	.355	-.105	.459
Familiarity with program[4]	.33	<.001	.038	.172	.020	.825

1. R=.59 R^2=.34 adjusted R^2=.30, F=7.306, p<.001
2. Item coded from 1=very dissatisfied to 7=very satisfied.
3. Item coded from 1=strongly disagree to 5=strongly agree that these good governance principles have been achieved.
4. Item coded from 1=not at all familiar to 5=extremely familiar.

For Cayuga Heights, there was also a statistically significant positive correlation between evaluations of good governance principle performance and overall satisfaction, indicating that respondents who expressed more agreement that good governance principles were achieved for Cayuga Height's deer management program reported higher levels of satisfaction (Table 11). These relationships were all substantial (r > .50). For Cayuga Heights, the relationship between familiarity with the program and overall satisfaction was not significant (r = .06, p = .272). Table 11 also shows that the regression model indicated that the performance index is the strongest predictor of overall satisfaction (β = .347, p < .001) while legitimacy (β =.308, p = .003) and familiarity with the program (β =-2.01, p = .046) also contributes to satisfaction. All other indices and the familiarity item were not significant. The regression model explained 54% of the variance in satisfaction.

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Table 11. Predicting overall satisfaction with deer program for Cayuga Heights

Independent Variables	Dependent variable: Resident satisfaction[1,2]					
	Zero-order correlation (*r*)	*p*-value	*B*	*SEB*	*β*	*p*-value
Inclusivity[3]	.62	<.001	.178	.212	.077	.402
Performance[3]	.69	<.001	.869	.199	.347	<.001
Accountability[3]	.52	<.001	-.233	.177	-.098	.188
Direction[3]	.64	<.001	.150	.149	.075	.315
Transparency[3]	.64	<.001	.324	.206	.146	.117
Legitimacy[3]	.70	<.001	.657	.222	.308	.003
Fairness[3]	.65	<.001	-.186	.263	-.078	.482
Capability[3]	.66	<.001	.047	.221	.020	.832
Familiarity with program[4]	.06	.272	-.192	.096	-2.01	.046

1. R=.74, R^2=.55, adjusted R^2=.54, F=40.721, p<.001
2. Item coded from 1=very dissatisfied to 7=very satisfied.
3. Item coded from 1=strongly disagree to 5=strongly agree that these good governance principles have been achieved.
4. Item coded from 1=not at all familiar to 5=extremely familiar.

DISCUSSION AND IMPLICATIONS

Despite differences in the progression of the deer management programs in Cayuga Heights and Trumansburg, respondents reported few differences in deer impacts experienced, attitude toward deer, or cost-benefit analyses regarding living with deer. Significantly higher rates of deer-vehicle collisions and hunting were reported by Trumansburg residents, which is perhaps not surprising given that Trumansburg is in a more rural location, whereas Cayuga Heights borders a significant population center, the City of Ithaca. However, the effect sizes for these differences were minimal and therefore not practically significant (i.e., not large enough to be considered meaningful). Similarly, while differences for feelings about deer were statistically significant, they were also not practically significant. Differences in reported familiarity with the program may perhaps be explained by the fact that deer management issues in Cayuga Heights have been ongoing since the 1990s, whereas deer management issues only coalesced as an issue in Trumansburg in 2014. The lack of differences between the two communities with respect to deer-related experiences and perceptions aligns with research and outreach efforts that suggest the impact categories with respect to deer are generally the same across communities (Decker et al., 2004; Decker et al., 2002). However, given that the programs progressed so differently in the two communities, one might expect that citizen evaluations of living with deer would differ more than we found. It is surprising that no differences in satisfaction with the program were found; given the controversy around Cayuga Heights' process and the significant amount of time and resources committed to

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the effort, we expected lower levels of satisfaction. However, the fact that satisfaction between the two communities was not significantly different despite the differences in program process and outcomes perhaps suggests good alignment between program and context (DeCaro & Stokes, 2013; Lawrence & Deagen, 2001; Rowe & Frewer, 2000; Turner et al., 2014).

Positive mean values for overall evaluation of achievement of good governance were reported for all principles for both communities, despite major differences in the process and outcomes for both programs. Respondents from Cayuga Heights reported higher levels of agreement that principles of transparency and accountability were achieved; for transparency, this was expected and perhaps attributable to the length of time the community was engaged in the effort as well as the media attention the program received. Overall, however, the effect size for community differences were small, indicating that despite differences in program progression, evaluations of good governance do not differ significantly. It is surprising that there were no statistical differences in performance between the two communities. Given that performance refers to the best use of resources, including time and money, the fact that such seemingly drastic differences in the two—i.e., Cayuga Heights taking a decade longer to take action and spending at least twenty-five times as much money than Trumansburg—did not seemingly result in different evaluations of achieving this principle. Similarly, we expected lower levels of fairness to be reported in Cayuga Heights, given that minority voices brought a lawsuit to counter the program decisions, suggesting an evaluation that costs and benefits of the program were not considered without bias. However, the lack of differences perhaps suggests that this opposition, well-covered in the media, reflects a vocal minority with the resources to bring their concerns to court, not necessarily an indication of a significant proportion of residents' discontent.

With respect to specific survey items, respondents from both communities expressed high levels of agreement that how their community would benefit from deer management was considered and that the long-term impacts of the program would be positive. Respondents from Cayuga Heights expressed the highest level of agreement that residents were given the opportunity to express preference; this is perhaps explained by the progression of the issue in the community, and its associated high number of public meetings and multiple community surveys. In addition, it was significantly more important to respondents from Cayuga Heights than Trumansburg that they have opportunities to influence decision making. This congruence between importance and agreement with respect to inclusivity suggests some alignment between resident governance preferences and governance process in Cayuga Heights. The most important priority for both communities was a legitimacy item: the decision makers are trustworthy.

Our analysis of the relationship between the evaluation of good governance principles and program satisfaction explained over 50% of the variance with respect to program satisfaction in Cayuga Heights, and nearly 30% of the variance in Trumansburg. It is interesting that so much more variance was attributable to good governance in Cayuga Heights, suggesting some other factors or context differences that impact satisfaction may be occurring in these two communities. In general, governance with respect to deer

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resources has been ongoing for a much shorter period of time in Trumansburg, thus the salience of governance with respect to satisfaction evaluations simply may be lower. This may be an important line of inquiry for future studies.

CONCLUSION

Generally, residents are satisfied with deer management programs despite differences in decision-making processes as they progressed in Cayuga Heights and Trumansburg. Overall, our findings suggest that attention to good governance principles matters, explaining a fair amount of satisfaction with respect to deer program evaluation. However, it seems that how communities operationalize those principles in practice can vary, and indeed may need to vary to achieve satisfaction by community members. From a management perspective, this suggests some caution with respect to applying practices from one community to another and expecting similar outcomes. While communities may progress through a similar cycle of deer management decision making, the specifics of how they deal with steps in the cycle and the time needed to do so may differ considerably.

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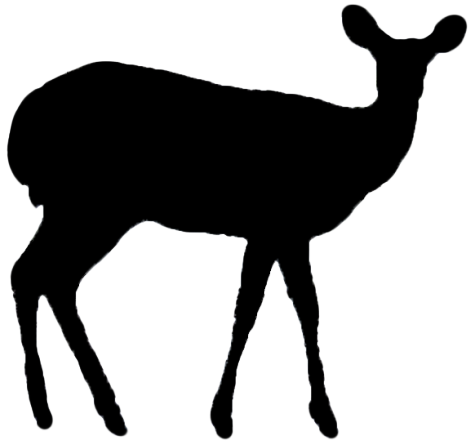
Deer Management in [Cayuga Heights/Trumansburg], NY



Human Dimensions Research Unit
Department of Natural Resources
Cornell University

Deer Management in [Cayuga Heights/Trumansburg], NY

Research conducted
by the
Human Dimensions Research Unit
Department of Natural Resources, Cornell University

The purpose of this study is to understand your perspective on the deer management decision-making process carried out in [Cayuga Heights/Trumansburg].

Your name was selected from 2015 tax rolls for Tompkins County We would like to hear from everyone who receives this questionnaire, not just those who have strong opinions about deer. For this study, everyone's opinions count.

Please complete this questionnaire as soon as you can, seal it with the white re-sealable label provided, and drop it in any mailbox; ***return postage has been pre-paid***. Your participation in this survey is voluntary, but we sincerely hope you will take just a few minutes to answer our questions. Your identity will be kept confidential and the information you give us will never be associated with your name.

THANK YOU FOR YOUR HELP!

YOUR VIEWS ABOUT DEER IN [COMMUNITY NAME]

1. **How long have you lived in** [Community Name]**?**

   _____ **years**

2. **Which of the following deer-related experiences have you personally had sometime in the last 5 years?** *(Circle all numbers that apply.)*

   1 Deer damage to gardens and plants around my home
   2 Deer damage to crops
   3 Viewing or photographing deer in or near my community
   4 Deer-related auto accident
   5 Lyme or other tick-borne disease associated with deer
   6 Hunting deer in or near my community
   7 Deer damage to forests on my land
   8 Problems with deer hunters

3. **Generally, how do you feel about having deer in your community?** *(Circle one number.)*

   1 I enjoy deer and I do **not** worry about problems deer may cause in my community
   2 I enjoy deer but I **worry** about problems deer may cause in my community
   3 I do **not** enjoy deer and I regard them as a nuisance in my community
   4 I have no particular feelings about deer in my community

4. **Generally, when you think about all aspects of living with deer, how would you weigh the benefits and costs of having deer in your community?** *(Circle one number.)*

   1 The **benefits** of deer in my community **exceed the costs.**
   2 The **costs** of deer in my community **exceed the benefits.**
   3 The costs and benefits of deer in my community **are about an even tradeoff.**

YOUR VIEWS ABOUT THE DEER MANAGEMENT PROGRAM IN TRUMANSBURG

5. **Generally, how familiar are you with [Community Name]'s deer management program?** *(Circle one number.)*

   1 Not at all familiar
   2 Slightly familiar
   3 Somewhat familiar
   4 Moderately familiar
   5 Extremely familiar

6. **Here we seek your evaluation of the deer management program in [Community]. Please indicate how strongly you agree or disagree with the following statements. Answer as well as you can based on your knowledge of the program.** *(Circle one number for each statement.)*

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't know
Residents were given the opportunity to express their preferences about deer management	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't know
All important views were heard during the deliberations about deer management	1	2	3	4	5	6
The amount of influence residents had in the management decision was too limited	1	2	3	4	5	6
Some residents had a better chance to provide input on the deer plan than others	1	2	3	4	5	6
Elected officials tried hard to give residents an opportunity to influence deer management	1	2	3	4	5	6
The decision-making process for deer management favored some interests over others	1	2	3	4	5	6
The village board was respectful of public views throughout the decision-making process	1	2	3	4	5	6
Resident input seemed to have no effect on the village board's deer management plan	1	2	3	4	5	6
Needs of residents who would bear most of the inconveniences of implementing the deer plan were considered	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't know
How our community would benefit from deer management was considered during the decision-making process	1	2	3	4	5	6
The deer management program benefits a broad range of residents	1	2	3	4	5	6
The deer management decision-making process was effective	1	2	3	4	5	6
The village board should have been able to make a decision about deer management in much less time	1	2	3	4	5	6
The deer program costs more than my community can afford	1	2	3	4	5	6
The deer program is meeting its objectives	1	2	3	4	5	6
Benefits of deer management in my community are worth the costs	1	3	4	4	5	6
The rationale behind the deer plan was clearly communicated by the village board	1	2	3	4	5	6
The village board clearly communicated how they made their decision about deer management	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't know
Residents were made aware of the opportunity to participate in the decision-making process	1	2	3	4	5	6
I was satisfied with the information shared by the village board	1	2	3	4	5	6
I know where to get information about my community's deer program if I want it	1	2	3	4	5	6
I trusted the village board throughout the deer management decision-making process	1	2	3	4	5	6
The village board was sincere throughout the deer management decision-making process	1	2	3	4	5	6
The village board was the right authority to make the decision about deer management in my community	1	2	3	4	5	6
I trust the village board to manage deer in my community	1	2	3	4	5	6
Deer are being managed in accordance with a process the community generally finds acceptable	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't know
The village board answered residents' questions about deer management as well as it could	1	2	3	4	5	6
The village board keeps the community updated regularly on deer management outcomes	1	2	3	4	5	6
The village board keeps the community updated on changes with deer management	1	2	3	4	5	6
I know who to contact with questions or concerns about my community's deer program	1	2	3	4	5	6
If my community does deer management planning again, I favor using a similar process	1	2	3	4	5	6
The deer management program in my community will benefit future residents	1	2	3	4	5	6
The long-term impacts of deer management on my community will be positive	1	2	3	4	5	6

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Don't know
Members of the village board are knowledgeable about deer management	1	2	3	4	5	6
The deer plan appears to be poorly researched by the village board	1	2	3	4	5	6
My community has the financial resources to carry out our deer management program effectively	1	2	3	4	5	6
My community has the expertise to carry out our deer management program effectively	1	2	3	4	5	6
My community has the right leadership to effectively implement the deer management program	1	2	3	4	5	6

7. **Please indicate how important the following aspects of a deer management program for your community are to you.** ***(Circle one number for each statement.)***

How important is it to you that…	Extremely Important	Moderately Important	Somewhat Important	Slightly Important	Not Important
you have opportunities to influence decision-making	1	2	3	4	5
respect and attention is given to diverse views	1	2	3	4	5
the decision making process is not biased	1	2	3	4	5
consideration is given to those who bear the inconveniences of deer management	1	2	3	4	5
the process for making decisions is clearly communicated to residents	1	2	3	4	5
the reasoning behind decisions is clearly communicated to residents	1	2	3	4	5
information about the deer program is readily available	1	2	3	4	5
the decision-making process does not take too long	1	2	3	4	5
the deer program does not cost too much	1	2	3	4	5
the deer program meets its objectives	1	2	3	4	5
decision makers are trustworthy	1	2	3	4	5
decisions about deer are made by the appropriate authority	1	2	3	4	5
my community has the resources to carry out the deer management plan	1	2	3	4	5
my community has the expertise to carry out the deer management plan	1	2	3	4	5
individuals overseeing the deer program clearly demonstrate how they have met their responsibilities	1	2	3	4	5
individuals overseeing the deer program are responsive to citizens' questions/concerns	1	2	3	4	5
the deer program considers future needs of the community	1	2	3	4	5

8. **Overall, considering your experiences with deer and your understanding of the development of Trumansburg's deer management program, how satisfied are you with deer management in [Community]?** *(Circle one number.)*

   1 Very dissatisfied
   2 Moderately dissatisfied
   3 Slightly dissatisfied
   4 Neither satisfied nor dissatisfied
   5 Slightly satisfied
   6 Moderately satisfied
   7 Very satisfied

BACKGROUND INFORMATION

9. **Are you male or female?** *(Circle one number.)*

   1 Male
   2 Female

10. **In what year were you born?** 19____

11. **What is your occupation?** *(Fill in the blank.)*

    _____

Please use the space below, or enclose a separate sheet, to offer any comments you would like to make.

Thank you for your time and effort!

To return this questionnaire, simply seal it and drop it into the nearest mailbox. Postage has already been provided.

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APPENDIX B: NON-RESPONDENT FOLLOW-UP QUESTIONNAIRE

INTRO
Good (Morning, Afternoon, Evening):
My name is _____ and I work for Cornell University. May I speak to _____.

(IF INDIVIDUAL IS UNAVAILABLE, FIND OUT WHEN IT WOULD BE CONVENIENT TO CALL AGAIN.)

I'm calling about the blue survey we sent you recently asking about your perspectives on deer and deer management in [Trumansburg/Cayuga Heights].

I know you may have been too busy to fill out the survey, but I wondered if you could spend about 5 minutes now with me answering a few key questions?

(IF NO, FIND OUT WHEN IT WOULD BE CONVENIENT TO CALL AGAIN.)

Before we begin, there are a few points I need to cover:

Your participation in this study is, of course, voluntary. If there is any question that you would prefer not to answer, just tell me and we will go on to the next question.

Your identity will be kept confidential and the information you give us will never be associated with your name.

1. First, how long have you lived in [Trumansburg/Cayuga Heights]?

_____ years

2. Which of the following deer-related experiences have you personally had sometime in the last 5 years? *(Check all that apply.)*

- ☐ Deer damage to gardens and plants around your home
- ☐ Deer damage to crops
- ☐ Viewing or photographing dear in or near your community
- ☐ Deer-related auto accident
- ☐ Lyme or other tick-borne disease associated with deer
- ☐ Hunting deer in or near your community
- ☐ Deer damage to forests on your land
- ☐ Problems with deer hunters
- ☐ Other: _____

`

3. Which of the following statements most closely reflects how you feel about having deer in your community? *(Check one box.)*

- ☐ I enjoy deer and **I do not worry** about problems deer may cause in my community
- ☐ I enjoy deer but **I worry** about problems deer may cause in my community
- ☐ I do not enjoy deer and I regard them as a nuisance in my community
- ☐ I have no particular feelings about deer in my community

4. Which of the following statements most closely reflects how you feel about the benefits and costs of deer in your community. *(Check one box.)*

- ☐ The benefits of deer in my community exceed the costs
- ☐ The costs of deer in my community exceed the benefits
- ☐ The costs and benefits of deer in my community are about an even tradeoff

5. Generally, how familiar are you with [Trumansburg's/Cayuga Heights'] deer management program? *(Circle one number.)*

- ☐ Not at all familiar
- ☐ Slightly familiar
- ☐ Somewhat familiar
- ☐ Moderately familiar
- ☐ Extremely familiar

6. Overall, considering your experiences with deer and your understanding of the development of [Trumansburg's/Cayuga Heights'] deer management program, would you say you are satisfied with the program, dissatisfied with it, or neither? *(Check one box.)*

- ☐ Satisfied→ **IF SELECTED, GO TO 6A**
- ☐ Dissatisfied→ **IF SELECTED, GO TO 6B**
- ☐ Neither→ **IF SELECTED, FINISH SURVEY**

6A. How satisfied would you say you are? *(Check one box.)*

- ☐ Slightly satisfied
- ☐ Moderately satisfied

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☐ Very satisfied

6B. How dissatisfied would you say you are? *(Check one box.)*

☐ Slightly dissatisfied
☐ Moderately dissatisfied
☐ Very dissatisfied

That's all the questions I have today. Thank you very much for taking the time to talk with me.

END INTERVIEW

Record Gender: _____ Male _____ Female

APPENDIX C: RELIABILITY ANALYSIS

Reliability Analysis and Factor Loadings of Good Governance Dimensions[1]

	Mean	Item Total Correlation	Alpha if Item Deleted	Cronbach's Alpha	Standardized Factor Loading (Standard Errors)[2]
Inclusivity				.90	
Residents were given the opportunity to express their preferences about deer management	4.02	.74	.89		.59 (.04)
All important views were heard during the deliberations about deer management	3.81	.85	.87		.76 (.03)
The amount of influence residents had in the management decision was too limited*	3.35	.77	.88		.78 (.03)
Some residents had a better chance to provide input on the deer plan than others*	3.07	.68	.90		.75 (.03)
Elected officials tried hard to give residents an opportunity to influence deer management	3.64	.78	.88		.74 (.03)
Fairness				.91	
The decision-making process for deer management favored some interests over others*	3.07	.69	.91		.71 (.03)
The village board was respectful of public views throughout the decision-making process	3.80	.71	.90		.79 (.03)
Resident input seemed to have no effect on the village board's deer management plan*	3.64	.84	.88		.80 (.03)
Needs of residents who would bear most of the inconveniences of implementing the plan were considered	3.67	.77	.89		.62 (.04)
How our community	3.94	.76	.90		.75 (.03)

would benefit from deer management was considered during the decision-making process					
The deer management program benefits a broad range of residents	3.83	.79	.89		.72 (.03)
Performance				.81	
The deer management decision-making process was effective	3.66	.72	.72		.79 (.04)
The deer program costs more than my community can afford *	3.72	.54	.79		.62 (.04)
The deer program is meeting its objectives	3.79	.59	.79		.74 (.04)
The benefits of deer management in my community are worth the costs	3.86	.69	.71		.60 (.05)
Transparency				.94	
The rationale behind the deer plan was clearly communicated by the village board	3.70	.85	.92		.84 (.02)
The village board clearly communicated how they made their decision about deer management	3.43	.87	.91		.84 (.02)
Residents were made aware of the opportunity to participate in the decision-making process	3.77	.81	.93		.67 (.04)
I was satisfied with the information shared by the village board	3.55	.87	.91		.74 (.03)
Legitimacy				.94	
I trusted the village board throughout the deer management decision-making process	3.61	.88	.92		.81 (.02)
The village board was sincere throughout the deer management decision-making process	3.73	.85	.92		.80 (.03)
The village board was the right authority to make the decision about deer management in my community	3.94	.78	.94		.82 (.02)

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I trust the village board to manage deer in my community	3.62	.91	.91		.85 (02)
Deer are being managed in accordance with a process the community generally finds acceptable	3.62	.77	.94		.60 (.04)
Accountability				.90	
The village board answered residents' questions about deer management as well as it could	3.72	.69	.89		.39 (.05)
The village board keeps the community updated regularly on deer management outcomes	3.37	.82	.84		.91 (.03)
The village board keeps the community updated on changes with deer management	3.24	.83	.84		.91 (.03)
I know who to contact with questions or concerns about my community's deer management program	3.56	.73	.88		.52 (.04)
Direction				.91	
If my community does deer management planning again, I favor using a similar process	3.55	.74	.95		.63 (.04)
The deer management program in my community will benefit future residents	3.92	.89	.82		.99 (.02)
The long-term impacts of deer management on my community will be positive	3.98	.89	.85		.83 (.03)
Capability				.92	
Members of the village board are knowledgeable about deer management	3.41	.80	.89		.71 (.03)
The deer plan appears to be poorly researched by the village board*	3.77	.75	.91		.72 (.03)
My community has the expertise to carry out our deer management program	3.58	.83	.89		.80 (03)

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My community has the right leadership to effectively implement the deer management program	3.50	.87	.87	.85 (.02)

1. Scale items based on level of agreement with statements that assess community's deer management program. 1=strongly disagree, 2=disagree, 3=neither, 4=agree, 5=strongly agree. Asterisks denote item was reverse coded.
2. All factor loadings significant at $p<.001$.